TRANSCRIPT OF PROCEEDINGS

IN THE MATTER OF:)
)
STAKEHOLDERS MEETING)
MEADWESTVACO)
)

Pages: 1 through 36

Place: Riverdale, Maryland

Date: February 26, 2004

HERITAGE REPORTING CORPORATION

Official Reporters
1220 L Street, N.W., Suite 600
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IN THE UNITED STATES DEPARTMENT OF AGRICULTURE

IN THE MATTER OF:	)
	)
STAKEHOLDERS MEETING	)
MEADWESTVACO	)
	)

Training Room 1
4700 River Road
Riverdale, Maryland

Thursday,
February 26, 2004

The parties met, pursuant to the notice, at 2:10 p.m.

BEFORE: CINDY SMITH
Deputy Administrator

APPEARANCES:

USDA, APHIS and BRS:

REBECCA BECH, Associate Deputy Administrator
SUSAN KOEHLER
JOHN TURNER
NEIL HOFFMAN
MICHAEL WACH

APPEARANCES (CONT.):

For MeadWestvaco:

DAVID CANAVERA, Ph.D.
Manager, Ecology Project, Forestry Division

K.L. (CASEY) CANONGE
Vice President of Communication, Forestry Division

Participants:

LEVIS HANDLEY
CRAIG ROSELAND
MICHAEL BLANCHETTE

P R O C E E D I N G S

(2:10 p.m.)

MS. SMITH: Well, welcome, good afternoon, glad you could join us for our series of stakeholder discussions on our new Environmental Impact Statement, EIS, and our plant biotechnology regulation changes. We thank you for taking time to join us today and share your thinking with us that's relevant to our upcoming rulemaking process.

We have primarily two purposes for these briefings. The first is to allow us to share information about our EIS process and our regulation writing process associated with revising our plant biotechnology regulations. And secondly, it's our intention to gather diverse and informative input that will support effective and sound decision making as we develop our new regulations.

We have here from BRS most of our management team, as well as several members of our staff and, when available, other key Agency personnel that are involved in supporting BRS in this effort.

I should mention two key individuals who have now been dedicated to this effort full time, in terms of managing the work that we're going to be doing in both completing the EIS and completing our

new biotechnology plant regs. The first is John Turner, whom you may know. He's a very important member of our leadership team here in BRS and I'm pleased to say that John is leading this effort on a full time basis.

And a second individual who's a new face to BRS, you may not be familiar with, is Michael Wach, W-A-C-H, a recent BRS hire as an environmental protection specialist within our environmental and ecological analysis unit. In addition to possessing a Ph.D. and a J.D., Michael brings research experience in plant pathology and weed science, as well as legal experience in cases involving NEPA, Clean Air and Clean Water Act and other environmental regulations. At this point, I'm going to turn it over to John Turner, who will provide some additional background information for you and then we'll open up the session for your remarks or your interactive discussion.

MR. TURNER: Thanks, Cindy. As you likely know, we've been in discussions with our sister agencies, the EPA and FDA, and the White House and those concluded that the coordinated framework has provided an appropriate science and risk based regulatory approach for biotechnology.

However, the Plant Protection Act of 2000

provides a unique opportunity for APHIS to revise its regulations and potentially to expand our authority while leveraging the experience gained through history and enhance our regulatory framework. And we would do this in order to position ourselves for the future advancement of the technology.

And we also concluded those discussions with some general agreement of how the regulatory approach should evolve, but still there is much opportunity for public and stakeholder input as we move forward, because it's very early in the process. So given this, what we would like to do at these meetings is just have an opportunity to hear your thoughts as well as have an informal give and take of ideas. And it's a really a unique time to have this opportunity again, because it's early in the process and because we haven't started the formal rulemaking process as of yet.

Our discussions, as you'll notice, are being professionally transcribed and there's two reasons for this. First, we want an accurate record of our discussions to facilitate our ability to capture and defer to your input later. And secondly, in the interest of transparency and fairness to all stakeholders, we will be making available as part of

the public record and potentially on our website, documentation of all of our stakeholder discussions, so that the public and other stakeholders will all have the benefit of the discussions that we're conducting with all the groups throughout the week.

While we're happy to share information on the direction we will be likely taking during this process, because we are accepting input, our thinking is going to be changing and evolving. In addition to the stakeholder and public input that we're receiving this week, those within USDA, such as our Administrator, the Undersecretary or Office of General Counsel and the Secretary, could provide insightful direction, also, as we go forward.

So while we value your input, it's important for us to recognize that the thinking is still evolving. So we may get into some very lively and enthusiastic discussions about something, but the process is evolving and changing.

On that note, it's very difficult to say exactly where we will end up with these revisions to our regulations. What we can do is share our overall priority areas which are going to guide us in the process. The first is rigorous regulation, which thoroughly and appropriately evaluates and insures

safety and is supported by strong compliance and enforcement.

The second is transparency of the regulatory process and regulatory decision making to stakeholders and the public. And this is very important and crucial for maintaining public confidence, as you know. We need a scientific based system. We've always had this, but we want to insure that we have the best science used to support regulatory decision making in order to insure safety.

We recognize the importance of communication, coordination and collaboration with really a full range of stakeholders. And finally, I would mention international leadership. We need to insure that international biotechnology standards are all science based, as are ours. We need to support international capacity building and we need to consider the international implications of any policy and regulatory decisions that we make. As we prepare for our discussions, I want to let you know that for effective transcription, at least for the first time that you speak, please state your name for the transcriber and after that, there's no need to repeat that. And with those comments, we're ready to get started. I'll turn things over to you.

MR. CANONGE: Thanks, John. My name is Casey Canonge and I'm the vice president of Forestry Communications for MeadWestvaco Corporation. I'll give you a little background in a second. Just a quick question to you, John, on the process here. You mentioned transparency of the discussion and these going up on your website. Are these going up as you go along? Is there a day when they will all be put up? What's the process for when we'll be able to see the full spectrum of input that you saw?

MS. SMITH: We're not sure yet. We're going to meet with our transcriber after this and get a sense of what the timeline is for when they'll go up. My sense is they'll all go up at the same time, but we don't have a sense yet of when that's going to happen.

MR. CANONGE: Will they go up, necessarily, before the end of the comment period in March?

MS. SMITH: We're not certain if they will.

MR. CANONGE: Okay.

MS. SMITH: We can certainly get back and let you know after the meeting.

MR. CANONGE: It was a question to see what other perspectives you were getting.

First of all, let me thank you for giving us the opportunity for us to come and talk with you today

and to let you know that we support the intent to review your regulations pertaining to the importation, the interstate movement and the environmental release of products developed through biotechnology. To provide a framework for our discussion and our presentation, I think it's important to give you some context and history of our company, MeadWestvaco, why we have an interest in biotechnology.

We are a leading global producer of packaging, coated and specialty papers, consumer and office products and specialty chemicals. Among our principal markets we serve are the automotive, beverage, consumer products, health care, media and entertainment and the publishing industries. We operate in 29 countries, we serve customers in over 100 nations.

We manage 2.2 million acres of strategically located forest lands in the Eastern United States and in southern Brazil. I would mention that our Brazilian forestlands are over 1,000 miles south of the Amazon Rainforest. These are in the southern most area of Brazil, well away from the Rainforest.

Our lands in the United States are managed to stringent environmental standards that are in conformity with the Sustainable Forestry Initiative,

and in Brazil, we have helped develop the CERFLOR certification system and we are preparing to certify to that standard, as well. So that provides some background for why we have an interest and our interest is in forest related biotechnology.

MR. CANAVERA: Okay, as we proceed --

MR. CANONGE: Dave, why don't you identify yourself?

MR. CANAVERA: I'm sorry, I have to do that, right. My name is David Canavera and I am the manager of our forest lands and technology program of our ecology project. As we go through this part of the discussion, we have some materials to hand out which come from one of our internal publications, which is called Forest Focus, which is available in the public domain at this time. Casey heads this up and we'll be referring to these -- or not referring to them, but just mainly we're giving them to you to provide.

So through its predecessor companies, Mead and Westvaco, now we're known as MeadWestvaco, we have a 60 year track record of experience and expertise in forest research, starting back in 1944. The company's forest research program, headquartered in Summerville, South Carolina, has been one of the largest and most comprehensive in the forest industry. In the early

years, in the 1940s, the state of the art was to gather pine seeds for future tree planting only from straight trees which existed in natural stands. The thought was that these trees were presumed to be genetically superior and would pass those traits on to their offspring.

This proceeded into the 1950s, when we established our first Loblolly pine seed productionary, which actually provided us our initial first better quality, genetically better quality seed for planting. And at that time, the company also took an active role in forming and being a part of the North Carolina State University Industry Tree Improvement Cooperative. This is a region wide effort to find, select and breed superior Loblolly pine trees.

In the mid-50s, the company selected our trees and we established our first genetically improved seed orchards and we conducted our first controlled pollination studies. To date, we've planted almost 1.5 billion seedlings of Loblolly pine on company lands and CFM landowner lands over the last half century.

So as part of this Loblolly pine domestication process, we call it, we've explored the

impacts of genetics, the impacts of poor soils on tree growth, as well as the impacts of various cultural treatments, including fertilization, weed control, prescribed burning, all the time being able to continue with our advances and our genetics research.

We're currently in our third cycle of Loblolly pine breeding.

(Discussion held off the record.)

MR. CANAVERA: And also using traditional tree breeding processes, we developed a hybrid pine that affords improved cold hardiness, while retaining the growth advantages of Loblolly pine. This is a hybrid between pitch pine and Loblolly pine. This hybrid has allowed us to extend the range of our pine plantations considerably further north, while maintaining the productivity levels typically associated with more southern climates.

MR. CANONGE: Let me stop you just a second, David.

MR. CANAVERA: Go ahead.

MR. CANONGE: When we finish this presentation, we would like to come back and talk with you about this pitch Loblolly hybrid, because I think it is a good example of a lot of what you're talking about in terms of genetic modification. This was done

using conventional tree breeding techniques, but if it had not been done using that process, it certainly would have been a candidate for this kind of biotechnology activity and it could provide a good basis for a follow up discussion at the end of the presentation. Dave, sorry for the interruption.

MR. CANAVERA: In the late 1970s, the company considerably expanded its research efforts beyond conventional tree breeding and other more known conventional methods, they used productivity efforts at the time, realizing that the empirical studies which we were establishing were yielding diminishing returns.

So our goal with that expansion of our program was to more fully understand the basic structure, functional processes of tree growth, stand growth and the role of plantations, forest plantations, on forest ecosystems.

And this is when we started our biotechnology program. Realizing that biotechnology had great potential when applied to forest trees, we established our program in 1985. This particular material, which was going around here has three articles describing some of our biotechnology efforts. This was expanded over the years to include tissue

culture, transformation, molecular biology and field testing. And this truly was a world class research effort and it became one of the technology bases, if you will, for the formation of a new company called ArborGen in 2000. Now ArborGen is a joint venture between MeadWestvaco, International Paper Company, Rubicon and Genesis Research and Development.

So MeadWestvaco's experience and our transition from managing natural pine forests to plantations of genetically improved pines has resulted in a quadrupling of forest productivity. This information is coming and the material is coming out here. This enhanced productivity means the company can meet its wood fiber needs on fewer acres, thus bringing other forested acres to serve other ecosystem values. All of these increases in productivity are the result of basic and applied research conducted by MeadWestvaco, but also through our partnerships with many, many academic institutions.

(Discussion held off the record.)

MR. CANONGE: I want to try to put our biotechnology research into some context, in terms of how we manage our land, because people who are not involved in the day to day operation of industrial forestry often have a vision. When we start talking

about pine plantations or some kind of plantation management, that it is spread from horizon to horizon, as far as the eye can see. And that is not how we manage our lands.

We use a process called ecosystem based forestry. And quick story short, you don't have to look through this whole thing. Basically, what we do is we assign all of our land to one of six categories. Timber management, visual quality, non-forest, water quality, special areas for habitat diversity. And so all of our land is assigned to one of those categories. Our timber management zones are typically our most productive sites. And each timber management zone then consists of several stands of various ages and sizes and sometimes even varying species. The harvest size in a timber management zone is typically 60 acres or less. So it is not that kind of large scale that some would have you believe. By carefully planning harvest scheduling, we're able to maintain a diversity of stand ages and sizes within an individual timber management zone. That helps us maintain diversity of wildlife habitat and ecosystem values.

About 20 percent of our land base is in zones other than timber management, i.e., 80 percent of our land is managed for timber production, 20

percent is managed primarily for other things, whether that be water quality, special areas protection, habitat diversity, visual quality or other ecosystem values. So we want you to understand how we use our land and how trees are put out there on the landscape.

MR. CANAVERA: So MeadWestvaco's extensive experience and track record in forest research and forest management makes us well positioned to speak to the science associated with forest biotechnology. WE'd like to make the following points.

First is the current risk assessment used by APHIS to regulate biotechnology since 1987 has worked extremely well, as evidenced by more than 10,000 field trials and 60 biotech products in the marketplace without any adverse effect on the environment or human health.

Second, the case by case risk assessment approach currently used in evaluating a specific trait and a specific crop has avoided the one size fits all categorical approach that could either overstate or underestimate risks for specific traits in a particular crop of interset. Loblolly pine is the principal plantation species in the United States, for example, is a well understood and characterized crop species. And genetic modifications to it should be

treated on a case by case basis.

Third, classification of risk should always be science based. Our experience to date clearly demonstrates that even within the broad categories of forest tree species, we find distinctive characteristics related to species, sites, treatments, level of genetic control and interactions between all of these.

Fourth, the benefits associated with biotechnology will allow us to continue to increase the productivity of our most productive land, freeing up additional acres to serve other forest ecosystem values.

MR. CANONGE: Let me conclude by saying that the forests of the United States are among the most healthy and abundant and productive in the world and we all should take great pride in that fact. Our forests provide clean water, clean air, diverse wildlife habitats and a variety of recreational opportunities for all.

The U.S. forest products industry employs 1.5 million people in growing, harvesting and manufacturing wood and paper products. Forest based industries are among the top ten manufacturing industries in 42 of our states. These forest products

are derived from a sustainable resource. They are recycled at high rates, but we are competing with regions of the world that have longer growing seasons, lower labor costs and less stringent environmental standards. Many of these regions are also closer to the emerging markets of China, Eastern Europe and South America. Our competitors are not located in North Carolina or Tennessee. They are located in Malaysia, Indonesia, Korea, South America. Forest research breakthroughs, including biotechnology, will help insure that the forest products industry remains globally competitive. And our forests will remain healthy and productive in that process.

Science and technology innovations that enhance productivity will enable forest managers to provide more wood and paper products from fewer acres. That will help to meet society's demands for a diverse set of forest products and values that range from housing to biodiversity.

MeadWestvaco has a long history of research and forest management expertise resulting from both our internal research programs and from a wealth of information generated by the scientific community at large.

Management practices in forestry address

ecosystem and wildlife values and landscape management practices. Biotechnology will be applied in the context of these existing practices. It is a valuable tool to enhance forest productivity to meet the fiber needs of future generations. Forest biotechnology has the potential to significantly enhance our production of wood and fiber based products. That research must be conducted in ways that thoughtfully consider both risk and benefit, and we believe that the current case by case risk assessment approach for specific traits and species is the best means to accomplish this.

Any decisions regarding regulation of forest biotechnology must be science based if both the community and society have confidence in the technology, in the resulting products and in the safety of our forest environment. Did the tape end at the right time?

MS. SMITH: She has more. The room we were in yesterday at FDA had this bell that kept going off every half hour and it was this lovely series of bells and someone would make a statement and then they'd get this bell, so it's a similar type of thing. Okay.

MR. CANONGE: Let's go back, Dave, and talk a little bit about the pitch Loblolly thing. It is a cold, hardy trait which, had it not been done back

beginning in the 60s between Westvaco and the U.S. Forest Service --

MR. CANAVERA: The U.S. Forest Service. IT was a cooperative project.

MR. CANONGE: It really was designed to provide a more cold hardy pine tree that could be planted farther north than traditional Loblolly pine and that was achieved using conventional genetics, but had that not been done, it would have been a prime candidate for forest biotechnology.

MR. CANAVERA: You've got the trait through another species is what you did, rather than getting the cold hardiness trait from knowing what the enzyme pathway is or knowing what the particular gene is. You just got it through hybridization. So that's a very good example.

MR. CANONGE: It is a tree species which is native to all of the Southeastern United States. Probably the premier tree species for wood production in the wood basket of the Southeast. Pitch pine, a lesser species in terms of commercial value, but growing farther north.

MR. CANAVERA: Much further north, New York state, Maryland, Pennsylvania.

MR. CANONGE: So it was a case where the

science has been done,it's now been commercially outplanted for the last 20 years.

MR. CANAVERA: Twenty years we've been planting.

MR. HOFFMAN: Is that propagated?

MR. CANAVERA: It's propagated by seed.

MR. HOFFMAN: So it's fertile?

MR. CANAVERA: Right, it's fertile. We have seed. We're actually using second generation seed and there are back crosses to Loblolly pine to some extent.

MR. CANONGE: I think my point would be that if this were lumped into a broad category of all trees are going to be medium risk or all trees are going to be high risk, that it just really is not nearly as effective as looking at things on a case by case basis. This is an example of something which was achieved, has had a 20 year record of commercial application without a problem, had it been dumped into a particular category, might have been the wrong category. That's why I think the pitch Lob hybrid is a good example of why the categorization process of high, low, medium can lump people together in the wrong groups, lump trees together or species in the wrong groups necessarily, or inappropriate.

MR. CANAVERA: We really didn't talk about the technology ladders or this chart showing the past and future gains, but if you'll look at these, you'll see a combination of genetic treatments, a lot of cultural treatments, etc. And it's been a gradual improvement as we've gone through time. This is more or less an industry average for the South, if you will.

The box in the top right hand corner being in yellow is where we want to go in the future. And obviously, genetic engineering is one of the components of that box. We feel that the gains are out there to be had, it's just a matter of figuring out just exactly what they are at this time, what traits we want to focus on. But it's obvious that it's there and we can make gains, obvious gains through genetic engineering as well.

MR. CANONGE: The other chart, the red bar chart, shows what has been achieved in pine productivity. And that really has been one of the things which has allowed the Southeast forest products industry to be as successful as it has up till now. The move from native stands with insufficient or mixed stocking in terms of how many trees per acre, the move to plantations, the additional cultural treatments,

all of these things have resulted in significant gains in terms of productivity. All of that said, we know from our experience down in Brazil that they have a longer growing season and they are even more productive. Our plantations down there, Dave, are how much more productive than our plantations here?

MR. CANAVERA: Roughly three times.

MR. CANONGE: Same trees, same seed, same sources. So for us to continue to try and remain competitive, we need to take advantage of all of the science that we can.

MR. TURNER: Impressive, impressive gains since the 1970s.

MR. CANAVERA: Yes.

MR. TURNER: Sort of four-fold activity.

MR. CANONGE: And a lot of that has to do with these guys understanding the mechanisms of trees.

MR. CANAVERA: We used the domestication process, I think, is a good word, because that's a lot of what's been involved, is figuring out the specific genetics which grows best, the specific soil types, the specific nutrient supplying capacities of their soils, what are the nutrition requirements of the trees, what are the spacing requirements? Insect control, disease control. We've been able to achieve

a lot of that. So it's a combination of all of those.

MR. CANONGE: They have gone through a land classification system whereby we now match up families of trees where we know the mother tree, we know the father tree and we know that that particular family grows best on this particular soil. And so we plant that family of trees on that soil type. Over here is a different soil type. That family doesn't do as well, a different family does.

And so, as Dave says, the domestication of Loblolly pine is what's allowed us to achieve the gains that you see there.

MS. KOEHLER: You mentioned some kind of a certification system in Brazil? Could you talk a little bit more about that?

MR. CANONGE: CERFLOR is --

MR. CANAVERA: Certificaceo Forestal.

MS. KOEHLER: Could you spell that?

MR. CANAVERA: In Portuguese or English?

MS. KOEHLER: Good point. I didn't know it was in Portuguese.

MR. CANAVERA: Okay, and I speak Portuguese, so C-E-R-T-I- -- Certification Forestry is what it is. I can show you how to write it.

MR. CANONGE: But it is, as you may be

familiar with here in the United States, there are a number of forest certification systems. The sustainable forestry initiative that is one. The other one would be the Forest Stewardship Council, FSC. These systems in the U.S. are designed to assure consumers that the products that they are purchasing are produced in sustainable ways from sustainable managed forests. The process going on in Brazil is to provide a similar certification system.

MR. CANAVERA: The details would be particular to Brazil, but the concept is the same.

MR. CANONGE: If you wanted to see the U.S. version, you could either type in, I believe it's SFI.org or FSC.org and you would be able to look at that. Or just type in a search for forest certification and you'll find both of those. And they're basically review processes that look at both your procedures and your practices to assess whether or not you're managing, harvesting and producing forest products in sustainable ways.

MR. WACH: I had a question. You mentioned your preference for case by case evaluation for each genetically modified organism and I wanted to know, especially when you're dealing with trees where it's a long term proposition to go down a particular path,

you may have a range of genes that you'd like to pursue. And you winnow down and you move along a certain path towards what you hope would be an acceptable final product. It seems to me that a case by case may provide you with less predictable than a tiered approach. A tiered approach, you may have some foresight into how we will view your final product. With a case by case, you may have less insight into how we will see the final product coming out of your research program.

MR. CANAVERA: Could you expound a little more on a tiered approach?

MR. WACH: Well, you basically --

MR. CANONGE: That's low, medium and high.

MR. WACH: Well, in other words, a categoried type of approach. We've bounced back and forth some.

MR. CANONGE: First of all, understand that foresters, by our nature, are pretty patient people. The trees that we plant are not likely to be harvested, in some cases, until after we retire. So we understand the longer term perspective.

I think it is a desire not to have things potentially miscategorized, which leads us to believe that the case by case system is better for specific

traits in specific species. And that may have to do with the uncertainty of what the categories would be and how those things would break out.

MR. CANAVERA: And the biology of each species of tree is different.

MR. CANONGE: You have pines, you have hardwoods, you have northern hardwoods, you have southern hardwoods. The range is really quite diverse and without knowing what kind of a categorization system you would have -- and I think if you get it down to the level that we would probably like, it would be almost back to a case by case system, because you're not just looking at forest trees, obviously. You're looking at an entire spectrum of things. And I don't think that you could have fine enough detail in each category and have enough categories for us to feel comfortable with that kind of a process. Dave, is that --

MR. CANAVERA: I just think, biologically speaking, I think I would come at it from the biological perspective that each species is different. Under certain environmental conditions, they're going to behave a certain way and do a different thing. I think we have to understand what those conditions are, how that species will perform under those conditions.

And how a particular gene would perform under those conditions. Just knowing all the interactions that occur in nature, so that's where I would come at it on a case by case basis.

Sometimes, you know, would be different than others.

MS. KOEHLER: This Forest Stewardship Council --

MR. CANONGE: I wish I had known that you were going to be interested in this because I would have brought you some more information.

MS. KOEHLER: Maybe, you know, we have other people on staff that are more into trees than I've been in the past, and maybe they're more versed. But I'm curious as to what extent data has been collected on the environmental impacts, if you will, on forest ecology and the environment from the introduction of different types of hybrids or different species that have been employed for purposes of, you know, paper production and what not? I mean, if they're looking at practices to see if they promote sustainable forests, would that include the impacts of introducing new species or different hybrids and what impacts they're actually having?

MR. CANONGE: The Forest Stewardship Council

certification system is promoted largely by a number of environmental groups, World Wildlife Fund being one of the leaders in that. They, frankly, are opposed to the use of any genetically modified organisms. They're also opposed, in large part, to most forest plantations. The certification system has become a political process and it's used to achieve a variety of ends, including the limitations on timber harvesting in various areas, the rights of indigenous peoples. It's become a giant mix. Forest Stewardship Council doesn't have a strong scientific basis for why they're opposed to genetically modified trees, they're simply opposed to genetically modified organisms in general.

In terms of history and such, I would say that probably our pitch Loblolly is as much an example of a hybrid, in terms of forestry.

MR. CANAVERA: Well, in pine hybrids, that's true, in the United States.

MR. CANONGE: I don't know about --

MR. CANAVERA: Well, Brazil has a plant hybrid eucalyptus and they have for a long time. There's a hybrid between Caribaea pine and slash pine that's planted extensively in Australia, so there are other examples.

But i think your question was, what impact do these hybrids and plantations have on other ecosystem values? We've studied those extensively through an organization called NCASI, the National Council for Air and Stream Improvement. We, as a company, MeadWestvaco and the forest industry, have sponsored a lot of research investigating the impact of plantations on the environment, specifically in the southeastern coastal plains, so there's a wealth of information there on this.

The hybrid situation probably has not been studied as extensively, because there's not as much available, there's not as much material planted, so but more on plantation culture, yes, that's been studied extensively.

MS. KOEHLER: That was the National Council for --

MR. CANAVERA: Air and Stream Improvement.

MR. TURNER: What are CFM lands?

MR. CANAVERA: Cooperative Forest Management lands, those are lands that -- well, Casey, you can address this better than I can.

MR. CANONGE: We have a program whereby we provide technical forestry assistance to private, non-industrial landowners in our operating areas, in other

words, areas around our manufacturing belts. We provide them with a management plan, advice on what they might do in terms of managing individual stands, understanding what their management goals are. Do they want timber production? Are they primarily interested in wildlife? What is it that they want?

So we have somewhere around, right now, 3,500 CFM landowners and that represents, I think, slightly over, I believe it's about 1.2, 1.5 million acres. That's a service that we provide. We do charge them for seedlings, if they want to have seedlings. If we provide other cultural support, in terms of things like prescribed burning, we charge them for that. But it's basically designed to get more forests better managed. There are ten million private forest landowners in the United States that represent about 60 percent of all the forest land. Most of them have never had a forester look at their land, most of them have never had a management plan developed. Many of them aren't interested in harvesting timber and that's fine. But those who are often sell to the first logger that comes along and offers them a price without knowing what the volume is that they have and so there's a whole need to educate non-industrial landowners about the value of the

resource that they own and manage. CFM is one way of doing that. It deals with a small part of the ten million, but it's our effort.

MS. SMITH: Do we have anymore questions?

MS. KOEHLER: I had one. So in your forest ecosystem, your ecosystem based forestry --

MR. CANONGE: Right, six zones. Six zones.

MS. KOEHLER: To what extent do you monitor, or do you at all, for ecological impacts within these different zones? I mean, obviously you have one called habitat diversity. Do you collect data on your species diversity within these habitats and the impacts of your practices on that as you're managing your plantations in these different areas?

MR. CANONGE: There are three wildlife biologists on staff that conduct a variety of research. We also have two research forests. One is located at Elkins, West Virginia. It's our wildlife ecosystem research forest. What we do there is we basically provide, I believe it's a 10,000 --

MR. CANAVERA: 8,400 acres.

MR. CANONGE: 8,400 acre forest site that we open up to a variety of academic researchers. And then we require that they publish the results in peer review journals. We also have another cooperative

over in Ohio for the Vinton Experimental --

MR. CANAVERA: Vinton Furnace's firm.

MR. CANONGE: Vinton Furnace Experimental Forest.

MR. CANAVERA: It's with the U.S. Forestry Service.

MR. CANONGE: So we partner with a number of folks to try and do this and there is a fair amount of data, again, as Dave said, out there already in terms of past research that's been done to look at the impacts of plantations and the impacts on ecosystems.

Bear in mind that when people start talking about plantations, everybody has this vision of somehow native forests having been cleared to the ground and replaced with plantations. If you know anything of the South and its history, much of that land was previously cleared for subsistence agriculture. The boll weevil pretty much brought that to a halt and a lot of the areas that were planted in pines are, in fact, areas that recycled back from subsistence agriculture previously.

So those that don't like trees in rows, I understand that. But I would say that trees in rows are better than no trees at all.

Loblolly is the native species for that part

of the world. There are four basic southern pines -- Long Leaf, Slash, Loblolly and Short Leaf. Loblolly is one of those four. It happens to be the best one for wood production for the paper industry. It's a native species from the area, is what I'm saying, so you have a plantation which is a peer stand.

MS. KOEHLER: You mentioned your pitch by your Loblolly pine hybrid as being sort of an example of how here you took traditional breeding and created this hybrid, where you could have gotten maybe the same result using genetic engineering if you had the genes.

MR. CANAVERA: Right.

MS. KOEHLER: For the kinds of traits that you're interested in pursuing with the biotech, do you see the types of traits that you're pursuing similar to or very different from the types of traits that you could develop through traditional breeding methods?

MR. CANAVERA: I think they would be very different without saying, you know, exactly which traits you're working on, but say, nutrient efficiencies. We would be building a better plant and I think it would be very difficult to achieve the kinds of changes that we would want in a genetically modified tree through conventional breeding. And the

time. It takes just so much longer to do so. It just takes so much longer to do that.

I think as the science of genetics advances, we'll learn more and more about these particular genes and we can be more exact in exactly getting the gene that we want, imparting the trait that we want into the tree.

MS. SMITH: Any other questions? Any final questions from you about our notice?

MR. CANAVERA: I don't think so.

MS. SMITH: Okay, well, we really appreciate you coming in and we appreciate your points, appreciate your case by case evaluation and we'll take all that into consideration. We are open to continued discussion as we go through this process, so please feel free to contact us for additional information or questions.

MR. CANONGE: Good, thank you.

MR. CANAVERA: Thank you very much.

MS. SMITH: Thank you.

(Whereupon, at 2:56 p.m., the meeting was adjourned.)

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REPORTER'S CERTIFICATE

DOCKET NO.: N/A

CASE TITLE: Stakeholders Meeting

HEARING DATE: February 26, 2004

LOCATION: Riverdale, Maryland

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the United States Department of Agriculture.

Date: February 26, 2004

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